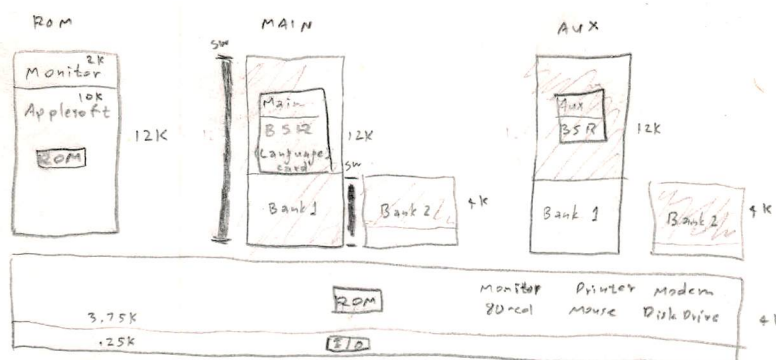
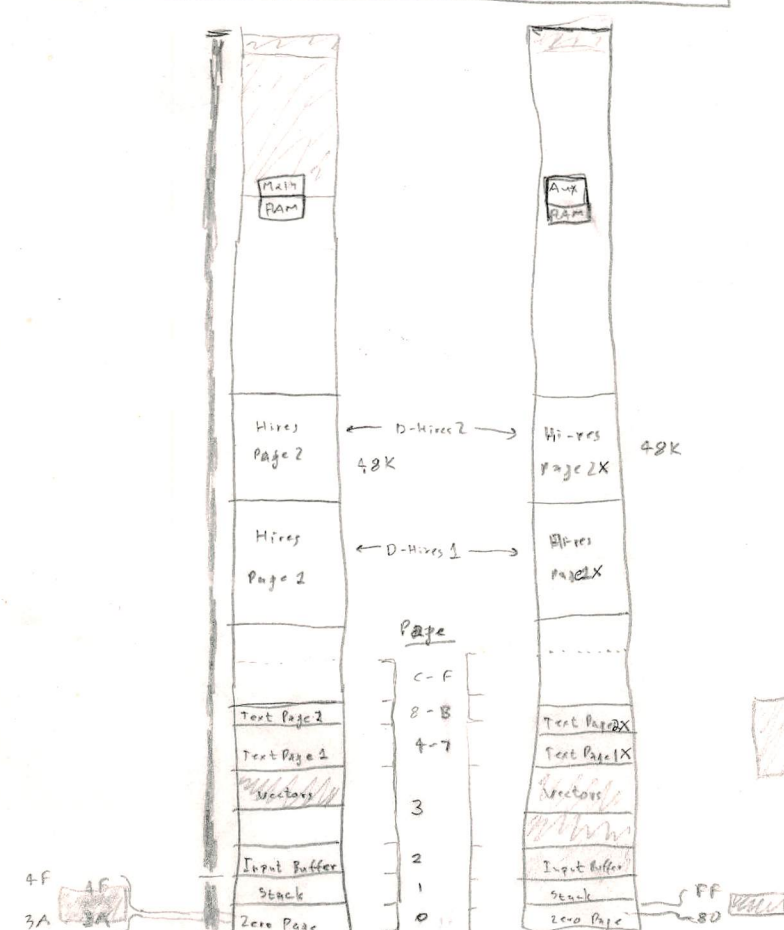


31000
 F
 FFFF
 F800
 F000
 E000
 0100
 D000
 C
 C400
 C000
 B
 BF00
 8000
 A
 A000
 9000
 9000
 8000
 7000
 6000
 5000
 4000
 3000
 2000
 1000
 C00
 800
 400
 300
 200
 100
 000

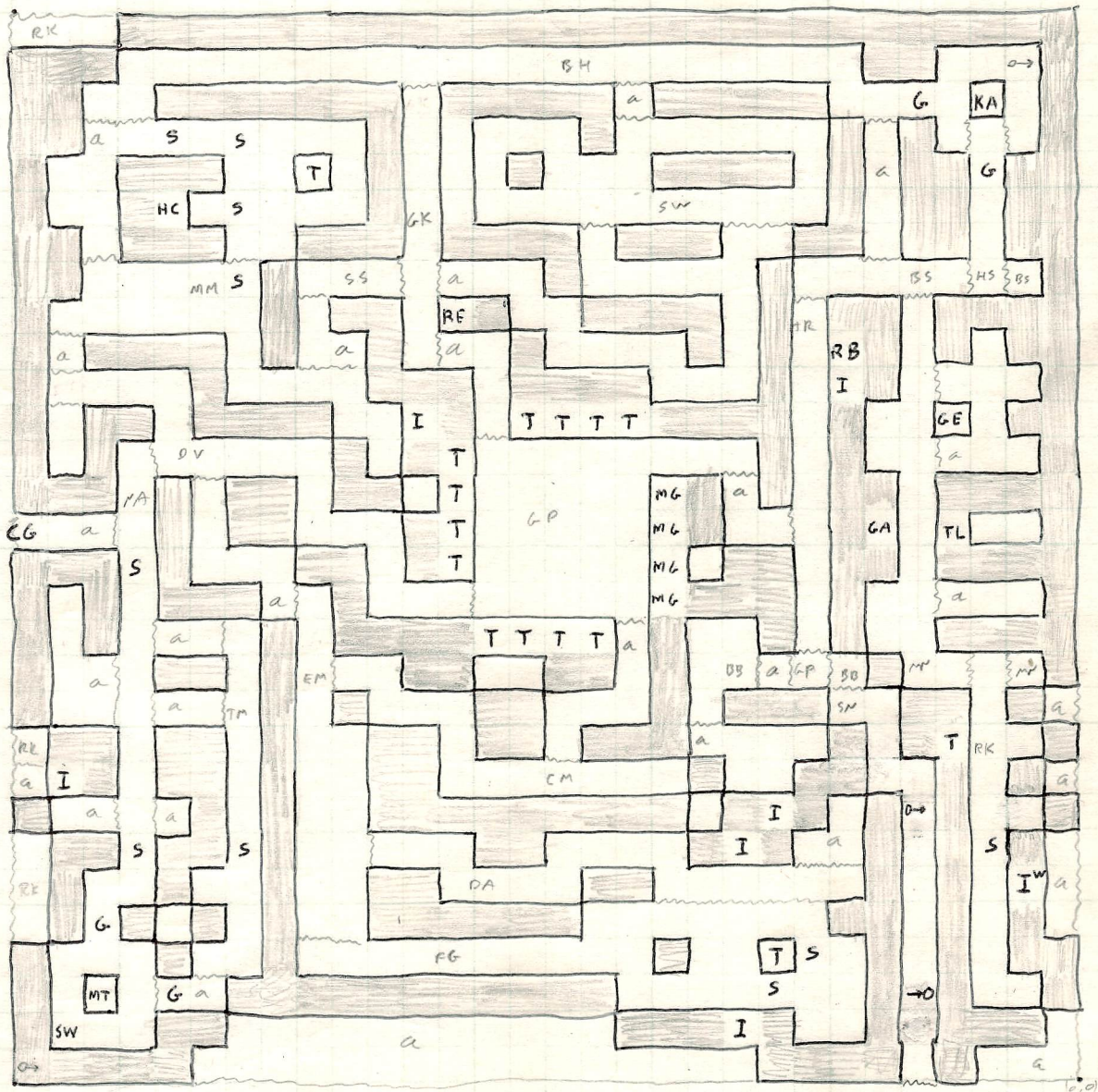


194K MEM
 128K RAM
 16K ROM, I/O



10111010
 3.3 21
 4 4
 40+8K
 CDR. APPLE, 1983
 10 1 11C
 11 128K
 0 1 80-col
 0 no clock

D42
 B29A



buildings

other

- | | | | |
|----|----------------------------------|---------------|------------------------------------|
| GA | Guild of Adventurers | SW | entrance to Sewers |
| GE | Garth Equipment S. | on | deporter out |
| HC | Harkyn's Castle | on | deporter in |
| KA | Kylearan's Amber Tower | | |
| MG | Mad God's temple | G | gate CG city gate |
| MT | Manger's Tower | S | statue |
| RB | Review Board | | |
| RE | Roscoe's Emporium | | |
| TL | title message | | |
| I | inn I ^w inn with wine | | |
| T | temple | | |
| | empty | | |

Dungeons

symbols

stairs

↑
up

↓
down

portal

↑
up

↓
down

teleporter

(number n)

←
in

→
out

other

T
trap

S
spinner

≡
darkness

AM
anti-magic

SM
Smoke in your eyes!

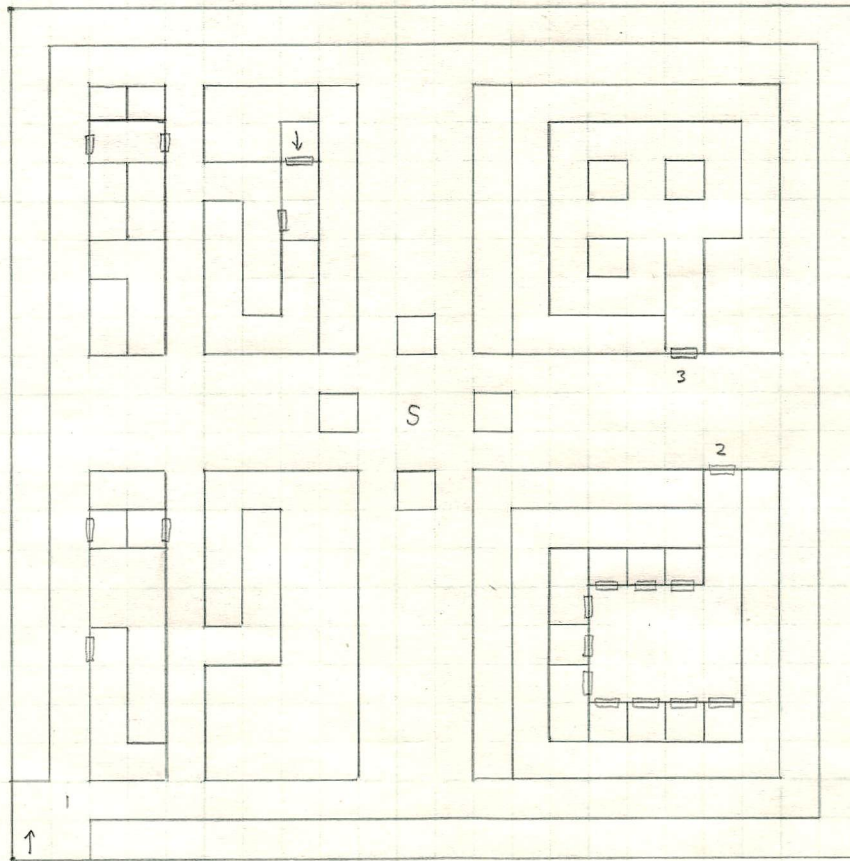
—
wall

⌊
door

⌋
secret
door

Cellars

level: 0 below



1 This is the wine cellar of the Scarlet Bard. The air is musty with old wine.

2 Rare wines - 50 years and older. Keep Out!

3 Fine wines - 10 years and older. For regular customers only.

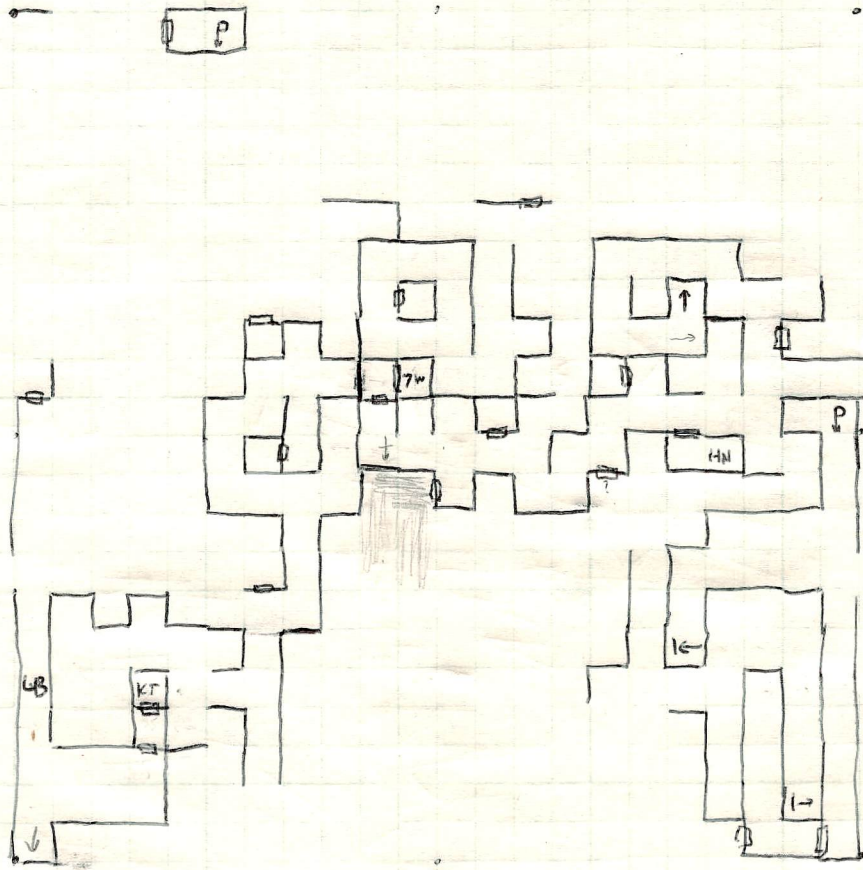
↑ inn

↓ Sewers (level 1 below)



1DD - IRKM DESMET OAEM
SL - Blime

Sewers (2)



HN - Heed not what is beyond understanding.

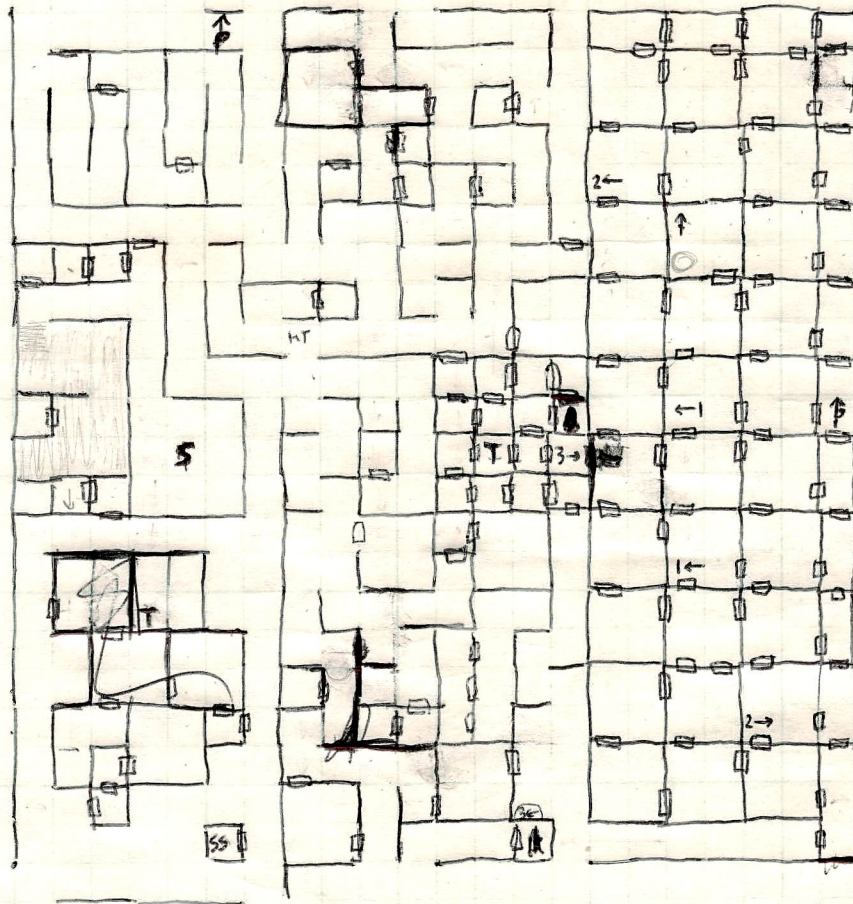
7w - There is no exit until the seven words are said.

LB = A light beam from the surface is mirrored down here
and focused to a burning ray, blocking the corridor. ~~there is~~

(Only once) KT - A magic mouth on the wall speaks: "Know this, that a man called Tarjan, thought to many to be insane, had through wizardly powers proclaimed himself a god in Skara Brae a hundred years ago. His image is locked in stone until made whole again..."

~~Manjar's Sewers~~ (3) and Manjar's

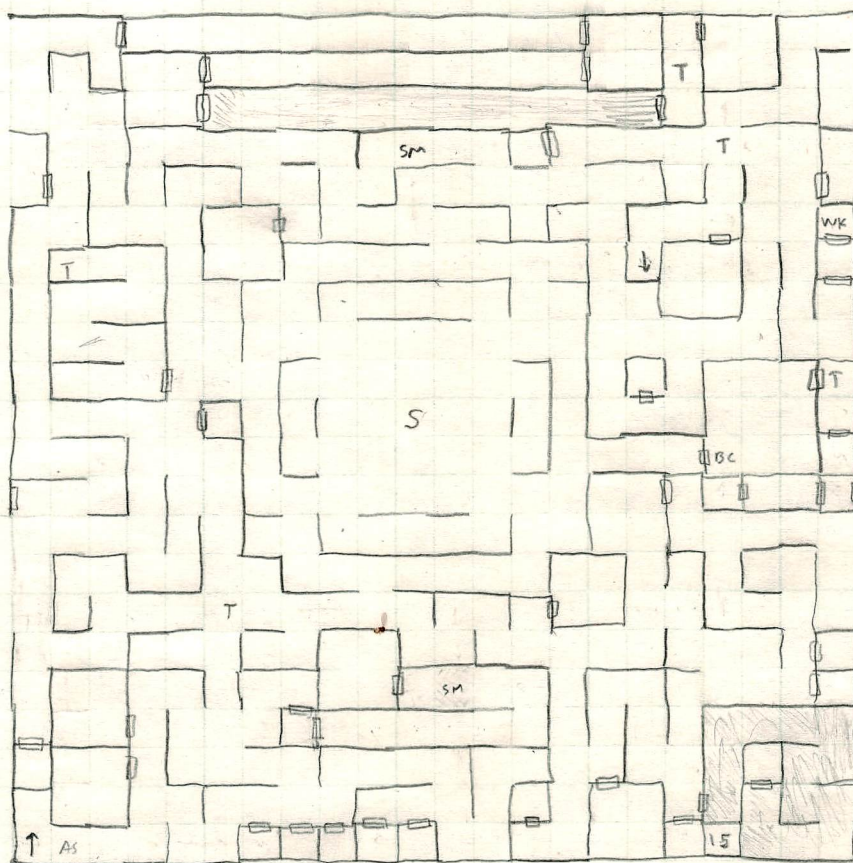
LSN
-12E
+00



15 17

HT - the hand of time writes and cannot erase
SS - Seal the Snare from behind the scenes.

↑ Manjar's Tower Courtyard



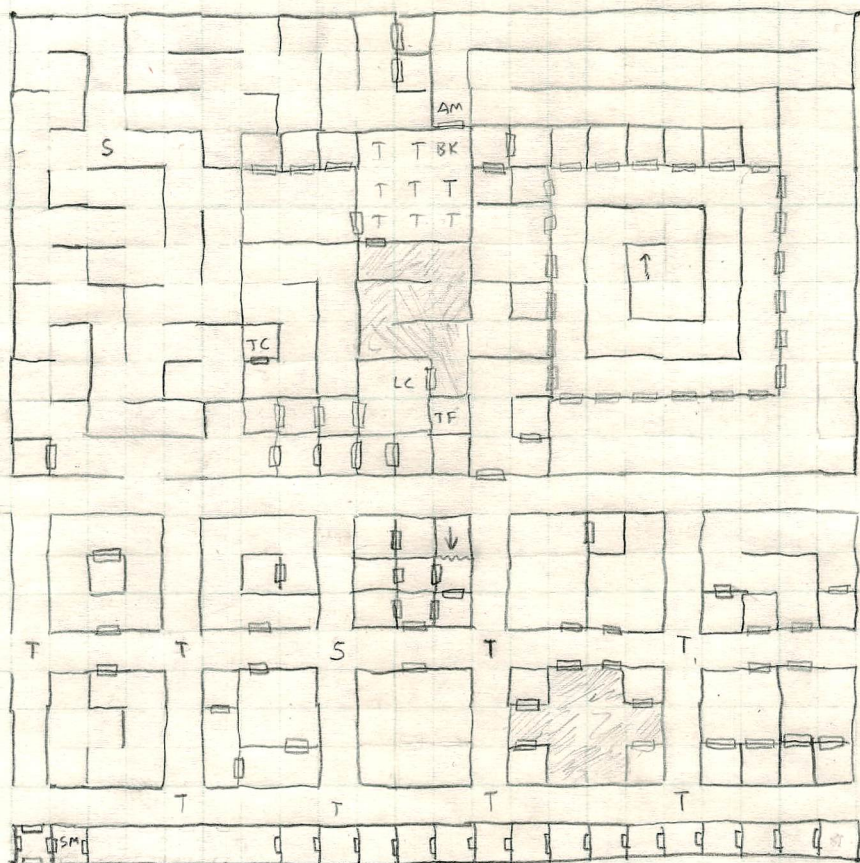
AS - Around you stretches miles of winding, twisting tunnels.
The ancient bones of acolytes jut out of the earth.

15 - On the wall is etched this rhyme: /Fifteen doors east/and thou art
there
/on souls they feast/in the dark one's lair

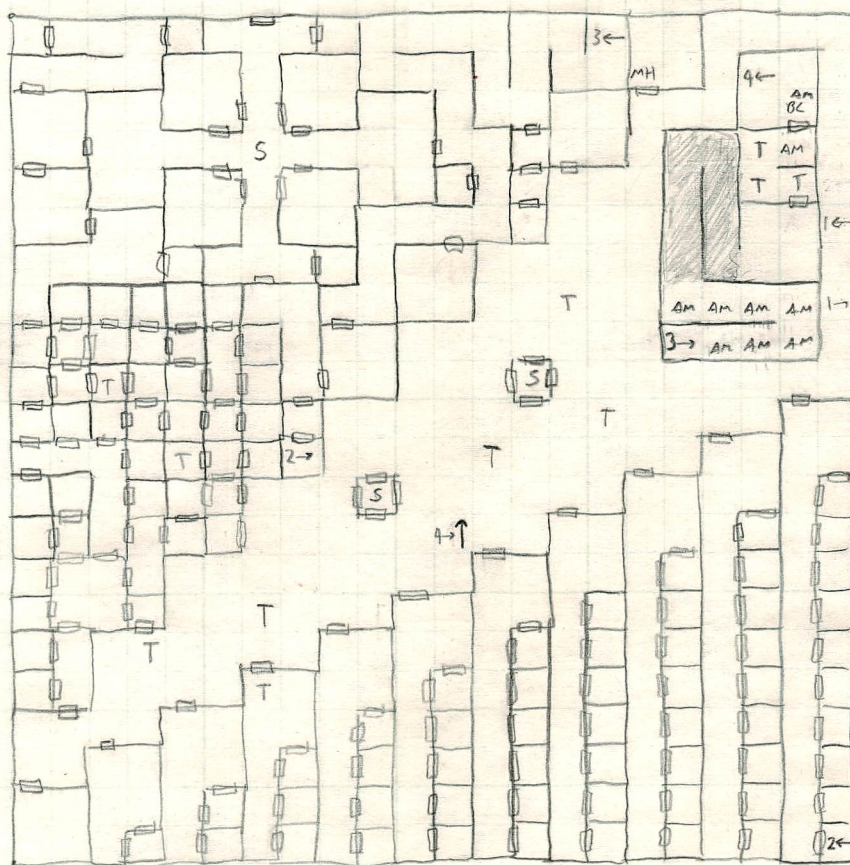
BC - You have entered the burial preparation chamber. Few but the
priests of the Mad God have seen this and lived.

WK - A message on the wall, scrawled in blood, says, "The ancient
witch king yet lives..."

↑ Mad God's temple



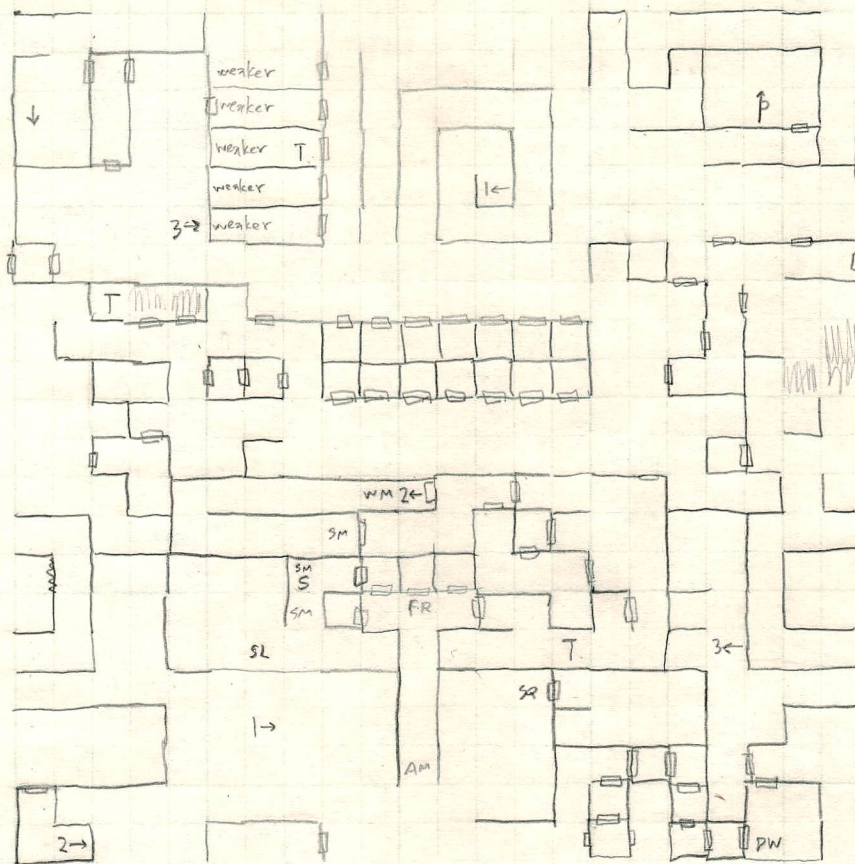
- BK - A sign proclaims that you have entered the chamber of Bashar Kavior, High Priest. Prepare to die!
- LC - You have entered the living chambers of Bashar Kavior, the High Priest. He screams, "Infidel! Face now the wrath of a servant of the Mad One!" I think you're in trouble.
- TF - A voice from nowhere proclaims: To the tower fly/ A mad one die/ Once lost the eye.
- TC - This is the High Priest's treasure chamber. His pet dragon, Sphynx, peers at you hungrily. "Sphynx eat now," it growls.
- SM - Staris chamber ahead: Those who venture ahead should prepare for a long stay!



- MH - A message is scrawled on the wall in blood: Seek the Mad One's stoney self in Harkyn's domain.
- BC - Before you lies the ancient burial chamber of King Aildrek, now a creature of darkness. "Now, mortal men, I will drink of your souls," he hisses.
- (person) has found an eye.



- NATIONAL**
- 42-381 50 SHEETS 5 SQUARE
42-382 100 SHEETS 5 SQUARE
42-389 200 SHEETS 5 SQUARE
- Made in U. S. A.



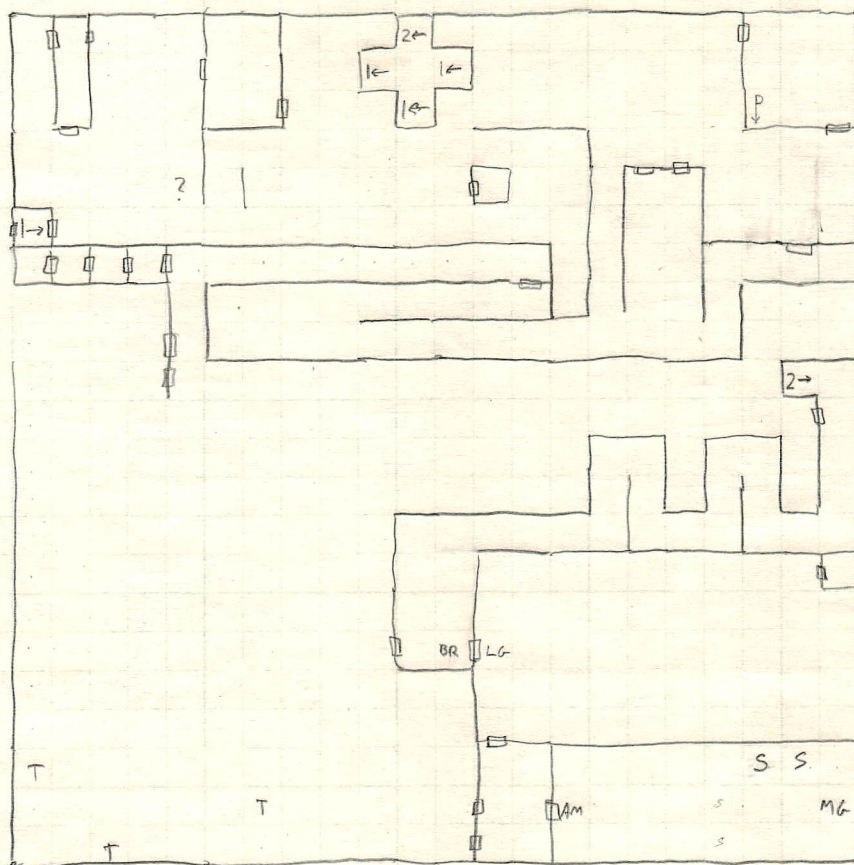
FR - The air nearby has a foul reek to it

SL - You are in a splendid library.

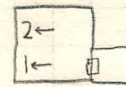
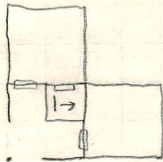
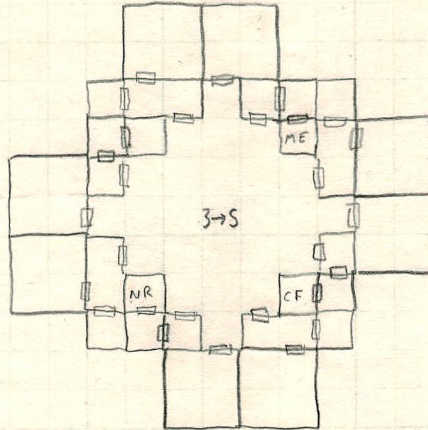
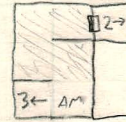
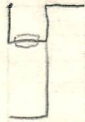
WM - A wizened man appears before you, saying,
"Answer this riddle to pass: Once man alive/
Now living death/ It drinketh blood/ N' stealeth breath
what say thee?" (A) VAMPIRE "Pass at your leisure,"
the Master Sorcerer says.

PW - A magic mouth on the wall speaks to you, saying this
riddle: "Past warscapes fought by men long dead, and
treasures lost on bloodied fields, the One God lifts his
thorn-crowned head, and lays a strength on friendly..."

SR - A sign on the wall reads, "Slave quarters."



- BR - A sign on the wall reads, "The Barracks."
- LG - The legions of Baron Harkyn stand before you, recognizing you as intruders. "Death to them!" they scream.
- MG - An old statue of a fifteen foot tall warrior stands before you. will you (A) (E) (1/E) An Eye levitates from (person) and goes into the statue's empty socket. the statue comes to life! (the Mad God) in You are being teleported! (to Skara Brae, near Kycarb's Tower)



- ME - An inscription on the wall reads, Made of earth/Yet without soul/
As living statue/He is whole
- CF - A magic mouth on the wall speaks to you, saying this: "Name the one
of cold, foretold twofold:"
- NR - An inscription on the wall reads, As a guardian/He must walk.../
The first part/of his name/means rock

COMBAT (39)

enemies

all

psychic energy MIBL 10-40

group

hit
energize WAST 4-16
ignite surround STFL 6-24
energize " SHSP 8-32
fire DRBR 8-32
other (all combat long)

freeze FRFO

fear FEAR
" + CURS

miss

flame MAST
hypn. img HYIM

one

hit

spectra touch SPTD 12-48
blue flames ARFI (1-4) xL
psychic eng. MISA (2-8) xL
MIFI (3-12) xL

other

stone touch STTD. stnd
kill DEST dead
needles POST psmol
wither WIST old
bind SPBI (poss) special

(special)

illusion TADU
zooal Answ

party

shield MYSH m
armor YMCA ;

special foe

(magic)

ANMA

demons

one DEBA 32-128
group DMST 32-128

undead

one HOWA 6-24
group REDE 16-80

illusions

one DISB -
all DILL - (all combat)
(ANMA)

allies (all combat long)

Self (increase protection)

shield SOSH-1
armor AIAAR-1
vanish VAN1-3?

Character (increase fighting)

battle skill BASK
vorpel vorPL+(2-8)
plating
mage MAGA+(4-16)
gauntlets
oscon's OLST
agrestrength
wrath of valhalla WROV

party (increase protection) lower armor

blur PHBL -1
vanish INV -1
armor MIMI -3
anti-magic ANMA

BAARD'S TALE SPELLS 2

TALE
SPELLS

(all types, all levels)

38

2

1

not com.

Special (15)

illusions

dummy TADU (combat)

wolf WIWO

mercenary WIWA

red dragon WIDR

storm giant WIGI

ogre WIOG

real

(Joe)
sword ANSW (combat)

wolf INWO

ogre INOG

undead

low SUDF

medium SUPH

high SPSP

demon

low LESU

medium PRSU

high GRSU

alteration (2)

traps TRZP

walls PHDO

location (5)

teleport APAR

levitate LEVLS

MALE;

slow

compass MACOM

coords. SCS1

healing (8)

character

hp WOHL

hp, psnd, FLRE

nuts

poss

heal DISP

nuts MIWP

dead

life BEDE

un- ANDE

party (hp, psd, nuts)

partial FLAN

total REST

Vision (10)

torch

plain MAFL m

night CAEY;

+secret

doors

plain LEREI

wide GREFI

glow

metal STLIS

(secret doors)

stone

earth STSI m

sense

stairways ARENS

traps LOTRS

all SESI m

SOSI I

(starting spells)

CAEY

GREFE

MALE

MACO

SOSI

YMCA

[special]

BARD'S TALE SPELLS 3

MAFL - LERE - GRE - (CAEY)

LEVI - MALE

FLRE - FLAN

AIAR - YMCA

MISA - MIFI

SESI - SOSI

<u>RANK</u> <u>VIEW</u>	<u>30'</u>	<u>SELF CHAR</u> <u>NAME</u>	<u>PARTY</u>	<u>1 Foe</u>	<u>GROUP</u>	
MAFL	TRZP	SOSH	BAYC	LEVI	ARFI	FRFO
LERE	AREN	AIAR	WOHL	MALE	POST	MAST
GRE	LOTR	VANI	FLRE	FLAN	HOWA	WAST
STLI	SESI		WROV	APAR	WIST	SHSP
STSI	SOSI		VOPL	SCSI	1PTO	STFL
CAEY			MAGA	MYSH	STTD	DRBR
			OLST	MIMI	DEST	HYIM
			MIWP	ANMA	MISA	FEAR
			DISP	YMCA	MIFI	CURS
			ARDE	REST	NEBA	REDE
			REDE	PHBL	SPBI	DMST
			DISB			
			INV1			
			WIOG			
			DILL			

44 PDS

MIBL

1 WALL

PHDO

1 temple

I

RE

RE

RE

RE

RE

RE

RE

RE

RE

RE

RE

RE

RE

RE

RE

RE

RE

RE

RE

RE

RE

RE

RE

321-128
N94

17E
N94

~~sample~~
ML
SP

10/2/01
Peters

Art - Child & Adolescents

GE - Garth Equipment Supply Co

~~AB~~ ~~Adm~~ ~~Control~~
SPE structure
Ryur BLK
Comments

N-6 - ~~Mad~~ temple of the
 S-2-2 Mad God's

Temple

$$M_T = \text{Mayer's Tower}$$

As the sky darkens

CA- K Yearan's Amber Tower

$\Gamma = \Gamma_1 \cup \Gamma_2$

Peer Review Board

The one has said that the first man is blessed and the last is damned.

1. lie
2. with
3. passion
4. and

SAFE
\$4,200

00065 70823

5:46

6: forever

~~Passit~~

7. done

WASHBURNER

SCREENS blocks

(1) 0 ^{key} 44 : 43 45-53

(2) 1 55 : 54 56-64

(3) 2 66 : 65 67-75

CHARACTERS

0 77 : 76 78-84

1 86 : 85 87-93

2 96 : 95 97-A3

3 A6 : A5 A7-B3

4 B6 : B5 B7-C3

5 C6 : C5 C7-D3

6 D6 : D5 D7-E3

ORIG START TRACK

F

B

1F

1B

17

21

19

(7) D

3p. 7B : 96 → Fp /

3p. Fp : 96 → 20 96 1B 4C 89 19

27.9414C

~~32.1744C~~

	char	Screen
0	0	0
10	1	0
20	2	1
30	3	1
40	1	2
50	4	2
60	5	2
70	6	2
80	1	2
90	5	2
100	6	1
110	7	1
120	7	2
130	7	2
140	7	2
150	7	2

IACE

IACF

yyyyyy m mmm ddd

B 0 E 1

10110000 11100001

1011000 0 111 00001

58 07 01

88 07 1

1988 JULY 1

SWASHBUCKLER

D P 60F5
 C B K 60FF
 93 AV 60H7
 C1 A 6103

~~0 J 002 K~~

TRACK 3

CORE

ADDER

Σ
Φ.DF-FF

2-7

C (SCORE CODE)

← LOADED AFTER GAME

TRACK 1

CORE

→ \$1000 - \$1FFF

Σ
Φ-6.C7

8-C

E.E1-FF

1.0.0: AD 00 08 85 F9

4.E.F8: 1C 22 90 88 08 00 00 00

800: 04 8 C 10 14

700: 00 00 —

3.1.C0-C1

\$9C0-00C1

← SCORE

\$B00

0000 - \$FFF

(\$4000)

ADDER

3.2.0 A7 20 8D C4

800: 00 00 03

F.F.F 14 0F 20 2B 0F 00 30 0F
 60 00 00 00 00 00 00 00

2077: 6L SWASHBUCKLER

73.0-7 → \$000 - \$FFF

74.0-F → \$1000 - \$1FFF

1B00: LOAD

1B00: GAME
FIL
DEATH

~~1B00: GAME~~

READ

3.0-3.7

→ \$0000 - \$0FFF

IN ORIGINAL MOVE \$2000

1B20: READ 9.0-A.F → \$6000 - \$7FFF

1B30: READ F.0-10.F → \$8000 - \$9FFF

1B30: READ 15.0-16.F → \$2000 - \$3FFF

1B40: PAUSE (\$1C0)

1B49: WAIT KEY, CLEAR STR

1B53: INIT (\$1CB7)

1B56: GAME (\$1200)

1B58: SCORE (\$4000 LOAD) →

1B76: CHECK SCORE, LOAD SCREEN

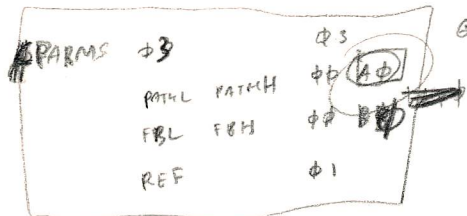
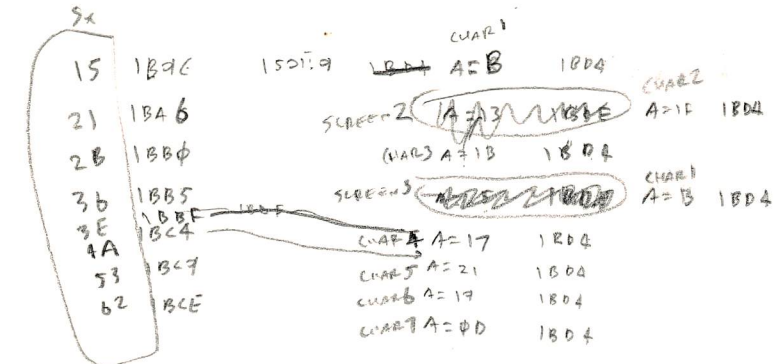
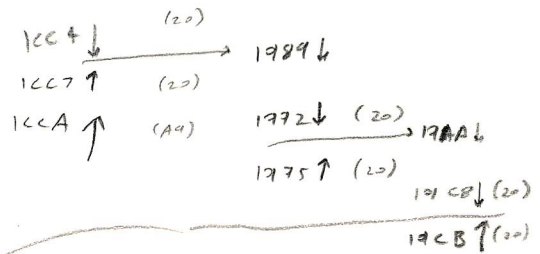
1B04: LOAD CHARACTERS

1B01: LOAD SCREEN

SWASHBUCKER

25.6B:4C

JR 1C87



1B7C: 1B7C
LOAD CHAR,
JMP \$180D

1B0E: PAGE 2 ON S7A \$CPS5
LOAD SCREEN
(31C8) COPY HRS
JSR(31987)
RTS

1B7C-1B7C

300-3CF ED34

12345 328: 00 10
12345 310: 04 00
12345 310: 04 00
12345 310: 04 00

A5: 27 00 FF 2 12 8D
80 00 00 00 00 00
90: CD 00 C 00 5 CD 00
9C FF 33 00 FF 20 00

A9 (T)
A2 (L)
A0 (H)
20 66 03

0
1
2
3
4
5
6
7

ED2E

303-31B

A5303 - L317

A9 1D

044: 67 SWASH B 0000: 2100-38FF → 800-1FFF
08 1 SWASH B 3900-5900 → 6004-8000

LD A #300
JSR LOCHR
LD A #301
JSR LDSCR
JSR ICAC PAUSE
JSR IC87 INIT MYINT 1B0D
JSR 1800 GAME
JMP 1B00 START

1AC2 - 1B7C
E2

9C: 00 3 FF CD 0 60 2
01 3 0 0 4 0 0 0

9D: 00 00 00 00 00 00
9E FF 33 60 00 20

FREE: 1AC2 - 1AFF

ENTRIES: 1AC2: START

1B7C: CHECK SCORE FOR LOAD CHAR, SCR

1AC2: 00 00 00 00 00 00
1AD0: 00 00 00 00 00 00

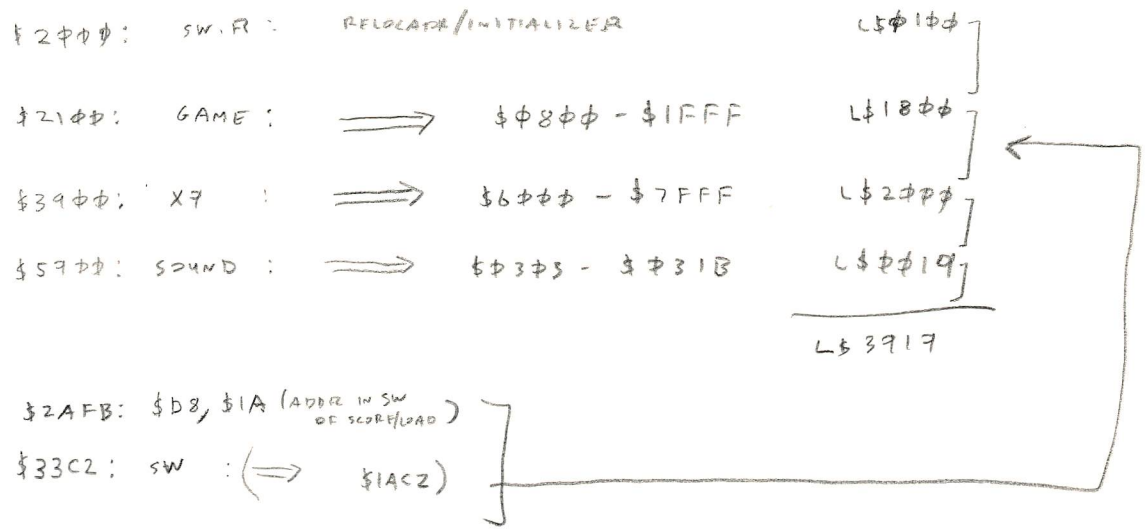
LD A SCOREL \$9C0
DB: CMP #51
BEQ
CMP #52
:
CMP #53
BEQ
JMP \$1984

in SYS file:
SETUP
JMP \$1AC2
FIX 2B.FA:
JMP scorehek

6000-7FFF

SWASHBUCKLER

GAMEFILE:



entry: 383

52, 6344

1, 4, B

\$03C

1934

1CC4: JIR \$1788

1CC7: -

1B76

\$0000 34 A2 65 00

\$0000 34 A2 67 7F

30 4ED: B7

11F1

30. 1B8: FF (from 0)

1C5: 72 16 (from 09 19)

1672

FR:0E | FC:AF

INC \$07C0

EE C0 07



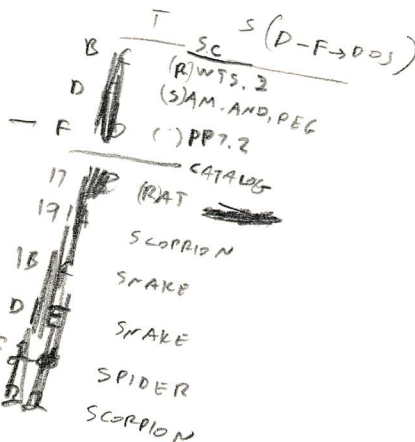
SWASHBUCKER

12 E 5:8C 03 (3806)

~~3836~~

3836

C1B



RWTS JMP

09 03

~~009:04~~
4:CF

USE

1546:20 0-2 005

7.2-3.F → unused

3.0-3.7 } ~~LOAD AT \$800-\$1FFF~~
1.0-4.F } ~~GAME~~

3.E = SCORE

GRAPHICS? → 5-8 ~~SCREEN 3~~ (DON'T COPY) SCREEN 3 (X)

7-8 ~~SCREEN 4~~ (DON'T COPY) SCREEN 4 (X)

9-A ~~CHAR 10~~ (DON'T COPY) CHAR 10 (X)
D-E CHAR 7 (X)

F-10 XF ~~CHAR 8~~ (DON'T COPY) CHAR 8 (X)

11 CATALOG

12 BINARY BOOT FILE

GRAPHICS? → 13-14 ~~SCREEN 2~~ (DON'T COPY) SCREEN 2 (X)

15-16 ~~SCREEN 1~~ (DON'T COPY) SCREEN 1 (X)

17-18 CHAR 4 (X)

19-1A CHAR 6 (X)

1B-1C CHAR 3 (X)

1D-1E ~~CHAR 1~~ (DON'T COPY) CHAR 1 (X)

1F-20 CHAR 2 (X)

21-22 CHAR 5 (X)

2.F ← 7.0

7.0 ← A.E

2.F ← 13.0

13.0 ← A.E

15 ← 1

1B:1
LOAD (A), (A+1) AT \$2700
TRACKS

TO AVOID RELOAD AFTER HIGH SCORE

3.C.9B:53 (FROM 34)

~~4B:28:49~~

310 TRACK

31E SECTOR

31F ~~SECTORS~~ (A) → last sector is read

328-29 ADDR

0335
033D
033F
0352
0366

INTRIGUE

7 5
~~73~~ 800: 2φ AF φB

T S B

3 ~~1~~ 33: ~~21~~ +3

25: A7 1C

3 C 04: ~~φ9~~ B5

3 3 C6: 12

3 E

3.6

32

AB 2φ 38 1A 8D 57 Cφ

000: A9 41 85 A4 12 66

11002

~~11002~~ 4B 18 +5 ...

7 S B

74 67

47 →

3763

5624 1 C

~~77 72 68 6E~~

288φ

164F

164F

P
 Y
 X
 A
 P

RE
 2H

2CAB A → A

2CAC P → P

2EAD: RL PH +

VIPER

T S B

1C 7 6A: CD → CB

66: CB → CC

Cφ3φ:

T S

1C 6

1C 3

(2)

{ 29: 2C 3φ Cφ → EA EA EA

73: 2C 3φ Cφ →

→ 98φ

(CAT (4) AND USE)

(?)

(91E)

84E

DB7

MARAUDER

003 7.3

BRUN MARAUDER (STARTUP FILE) ID.F=T/SL

A\$1300

E\$134F

~~\$134F~~

1

~~\$134F~~

~~(P660) Y~~
~~inx~~
~~inx~~
~~dec width~~
~~bpl pickup~~
~~dec smop~~
~~bpl tris~~
~~vtc~~
~~match~~
~~res~~
~~obol~~

~~left~~
~~right~~
~~monday~~
~~monday~~
~~reverb~~
~~reverb~~
~~best~~

move

1

3 K L

D stop

at JOCUE: KEY / JBY

ESC> PAUSE

~~134F~~

ID F T/S → ID E

0 1 2 3 4

BUFR ← { HI 1337: 02 03 B5 B6 A5
 LO 133C: 00 00 00 00 00

sector 1341: 04 05 06 07 08

1300: READ: 11

T	S	BUFR
11	8	A500
"	7	B860
"	6	B560
"	5	0300
"	4	0200

JMP \$B5B3

A BUXA
 CLC
 LDA BEX2
 ADC \$79D0,x
 CLC
 BMI DECRE
 CMP #307
 BCS INCRE
 STA BUX2
 LDA #500
 STA EXTRA
 JMP REGX
 DECRE ADC #307
 STA BUX2
 LDA #FFF

STA EXTRA
 JMP REGX
 INCRE CLC
 ADC #3F9
 STA BUX2
 LDA #501

STA EXTRA
 REGX CLC
 LDA BEX
 ADC EXTRA

~~134F~~ ~~B560~~ ~~B860~~ ~~070F~~

AQUATRON

LOADS IN → 7FD: 4C 06 45 JMP \$4500

97FF

12.E.S: 00 45 57 FF

~~70B6: 00 45 00~~

~~7FD~~

~~983F: 00 45 00~~

~~454C: 00 45 00~~

(BLOADW, A\$ 2000, L\$ 4000, B\$ 0000)

7D

~~B689:~~

~~B68F: 4C 00~~

~~454C:~~

A277L

A27A: 4C 00

NF

TO MAKE AQUATRON WORK WITH
DIV. DOS

7D 46: 00 7D

~~1B, 8.4D: 80 97~~

→: 00 7D


1F. 0. 18: 8D 50 C0 8D 57 C0 20 00 FD

→ EA'S

Boylmer 1
dash

0
4
8
C
0

2104

	SLD ₁ 0	SLD ₂ 4	SLD ₃ 8	SLD ₄ C
5				
6	IMPER. WALL	IMPER. WALL	WALL	GRASS
7	SPACE	SPACE	SOLID SPACE	SOLID SPACE
8	FIRE FLY	BUT. FLY	BOYLER	DIAMOND
9	SUNDLE?	ENC. WALL	IMPER. WALL	
A	BLAST	BLAST	BLAST	BLAST
B	DIAMONDS _B	DIAMONDS _B	DIAMONDS _B	DIAMONDS _B
C				

Boulder DASH 2

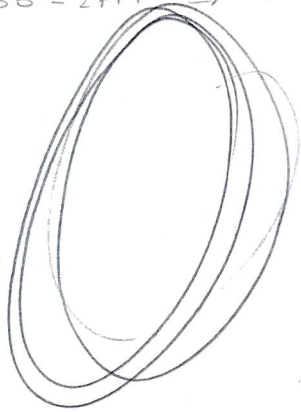
A \$φFφ4

L9 79FC

φFφ4 ~~79~~8BFF

~~0000~~

2000 - 2FFF → 0000 - 0FFF



18.76

6070

TIMER FOR
03BF CONTROL
STROBES

11 AB

070
T S
21 B

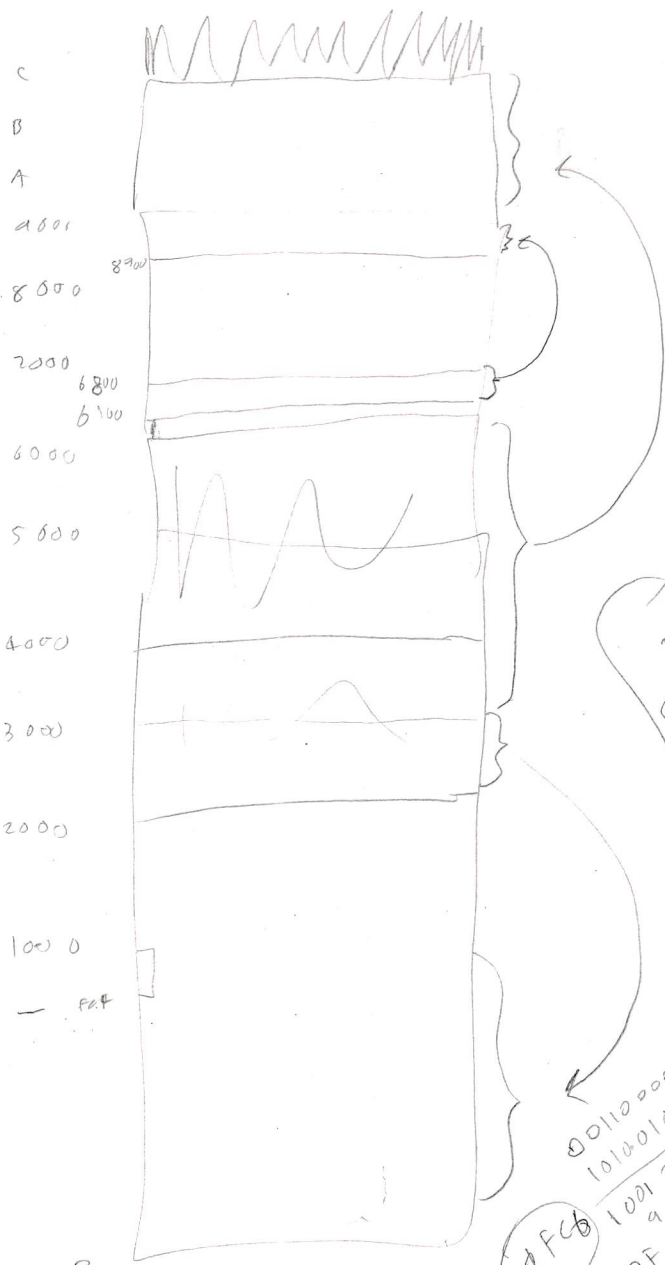
~~REVER~~ LIVES CHECK
1216 - 1217

T22 SA

START
6000 T10 SE

OFF

2E7B T20 SE
(φE7B)



10010111
10100101
00110010
3 2

3700
4700
00001010
10100401
10101111

00110000
10100101
10010101
9
7F305

4FC6

37:98 = ~~Bar~~ Bar

T20 55
INC 4CF:
JMP 2431 435

OUT OF TIME
2431:DEC IB

4F5F
T21 59
833:20
24:80

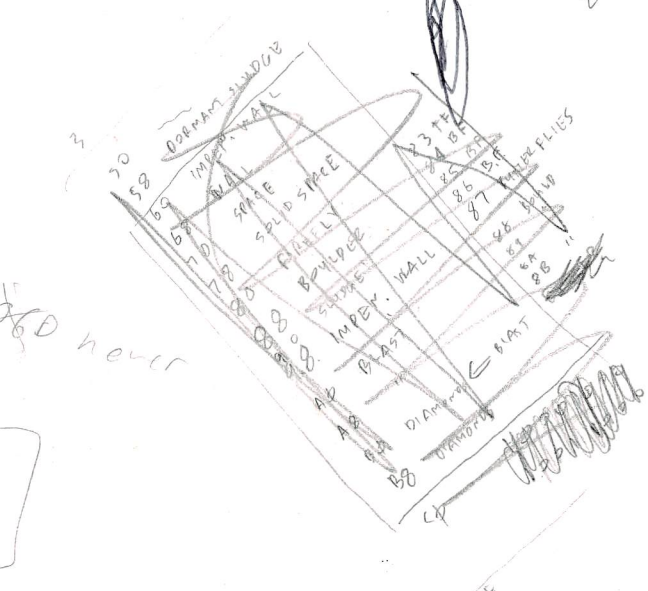
DEC IB

26 3

SLURGE SIZE
LIMIT
24CA: CMP C8 0034

2E6C

T22
044E



80 never

POOL OF RADIANCE

CHARACTER:

N A M E

± ± STR INT WS DEX CON CHR (STR)

0040:

2 8 ± 1 ± 2 AGE ± B

0080:

0 A 0 B 0 C 0 D 0 D 0 C

0 1

COPPER SILVER FEE

0000:

-TEAM GOLD PLATINUM GEMS JEWELRY

0 1

3 2 1 0 0 1

0 6

0 2

0 1

0 2

D 5 B 2

0 8

0 9

0 1

25

0100

26

0200

0300:

2-3-300

SUBLOGIC PINBALL

DS AA BS

DE AA EB

DS AA AS

DE AA FS

0110 0010 62

0110 0110 66

AS → 0110 0010 (62)

0110 0100 62

AS 66 → 64

61 AND 66-3 (66)

17 FS - B2FE
24 FS - BFFF

Y=2
C080
Y=1
C083
C082
C08F
C087
C084

T1.25:
FF → DB AB BF
FB EB EA DD
EF DB FF → FF

70: AS → 00
4: 85 → 00

BS.BB: 00 03 → 69 FF

80D: AD E8 CF

TφSφ:

1: JAMP MOVER

DA: MOVER: MOVE SECURE TO \$300

4: 7A.7B ← \$800

A: MOVE TO TRACK

2B: 64 ← \$20

78.79 ← \$B200

37: LOOK FOR DB AB BF

54: READ 2 BYTES → B2FE.B2FF
READ 2B BYTES → B300.B3FF

BFFF

67: READ ONE
CMP DB
BNE

70: 80 ← 4φ

78.79 ← B2FE (66) C3

96 ← J& C7

07: 78.79 ← B2FF (EB) 44

MERGE B2FE.BFFF
→ 800.1501

DB DE DF EA EB ED EF FS
0 1 2 3 4 5 6 7 8
F6 F7 FA FB FD FE FF
7 A B C D E F

62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000

DA: MOVER
(SEE ABOVE)

EQ: 10 745
2 605
0 8400

DB 00000001 → 00000001 D
00000100 → 00000100
11011011 → 0

XLATION TABLE:

RAW ONE: DB DE DF EA EB ED EF FS
MIBBLE

90: 4C 03 08
A9 90
C5 7B
F0 04
20 05 03
00
4C 69 FF AD E8 CF

T1ARS: FD 79 FS FE DD FB
FB EB FB EF FF FF
FF FF FF FF FF

MURDER ON THE MISSISSIPPI

[illegible]

B.D.1-φφ

$$A \in AB A$$

ABED B5D5 EABA
ALCA

PAAD5D5F5

F-1

~~SECRET~~

14.51 (dos)

0, 1, 2, 3

1162: 5p 52 54 56.

1166: 47 41 5φ 4c

116A: 54 40 53 48

26:40 40

6:6E64φφ

~~7~~ 3E : 56
~~2~~ 3F : C6

~~1~~ 2
~~3~~ 4
~~5~~ 6
~~7~~ 8
~~9~~ 10
~~11~~ 12
~~13~~ 14
~~15~~ 16
~~17~~ 18
~~19~~ 20
~~21~~ 22
~~23~~ 24
~~25~~ 26
~~27~~ 28
~~29~~ 30
~~31~~ 32
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~~487~~ 488
~~489~~ 490
~~491~~ 492
~~493~~ 494
~~495~~ 496
~~497~~ 498
~~499~~ 500
~~501~~ 502
~~503~~ 504
~~505~~ 506
~~507~~ 508
~~509~~ 510
~~511~~ 512
~~513~~ 514
~~515~~ 516
~~517~~ 518
~~519~~ 520
~~521~~ 522
~~523~~ 524
~~525~~

277

$$A = 4853 \text{ g.}$$

52.54

57 ϕ T

35. 2B 6C 3C

0 1 2 3 4 5 6 7 8 9 A B C D E F

36cc: 3F 3E 3D 3C 38 3A 39 38 37 36 37 35 34 31 32

36Dc: 68 69 6A 6B 6C C1 C2 C3 C4 C5 C6 C7 C8 C9 CA

36 EC: P

3600

$$\begin{aligned} \phi 1: & \\ \phi 2: & \\ \phi 5: & \end{aligned}$$

49 810 810 277 2

3 Feb. 1933

3F7E: 38 97 8C C5

$$A = 35$$

376A

1200

37E1: 35

37P:

MEPLIN

T 5 B
12 0 63 : 2 0 58 PC
(37P)

T 5 B
12 E 9 : 2 0 7 F 43 E A 0 A

opcodes

- (4) F3E8: } equ rrr pnc hex dfb da ddb ds lsr ast org obj set skip
 pag pag exp put tr chk var sav kbal end disk lrp hrr err usr
 dum den asc dci fls inv rev 37
- (4) F47D: ||| do els fin mac eom if 7
- (3) F49A: clc dex dey inx iny rts sec tax tay txa tya pha php pla plp
 tsx txs cld sed sei rti cli clv nop brk rth bk rs nul 29
- (3) F4F2: bcc bcs beq bne bpl bps bvc bvs bwr bnc bc bp bm
 bz bhz bmg bmm bs 20
- (3) F52F: ld st ldd std pop spc add sub pop cpr inr dcr 12
- (4) F55F: sta stx sty lda ldx ldy adc and asl cmp cpx cpy dec eor inc
 jmp jst sbc ora lsr bit rol ror 23
 128

F5B1 - F5CA

op# opt# 285

0C C6 asc

20 B2 dci

33 26 fls

4B AC inv

rev

define

ASCII chars: "=hi, '=lo

ASCII charstring ~~xxxxxx~~ last byte opposite high bit "=hi term lo, '=lo term hi

ex: dc: "ABC"

→ C1 C2 43

ASCII chars (lo) (flash)

ASCII chars lo, bit 6 off (inverse)

ASCII charstring backwards "=hi, '=lo

db

clc lex

dex int

vet iny

yti rti

sec ldr

tbl tdr

tbl tdr

tbl tdr

tbl tdr

tbl tdr

tbl tdr

tbl tdr

tbl tdr

tbl tdr

tbl tdr

tbl tdr

tbl tdr

tbl tdr

tbl tdr

tbl tdr

tbl tdr

tbl tdr

tbl tdr

tbl tdr

tbl tdr

tbl tdr

tbl tdr

tbl tdr

tbl tdr

tbl tdr

tbl tdr

tbl tdr

tbl tdr

tbl tdr

} — equate

ezv

pmc

hexr

dfbv

da — define address

ddb — hex word hi/lo (NOT lo/hi)

ds — turns off listing

ast — print x's "ast 7" print 7's (1-256)

org — (negative)

obj — max # bytes allowed for obj code

set?

skip — print blank lines "skip 4"

pag — new page

par — parse

exp?

putr

tr?

chk — checksum

var?

save

kbd — "label kbd" get value during asm from user

end — end asm

dsk — save some obj to disk

lup?

mm?

err — break

usr?

dum — dummy org for

den???

rem:code

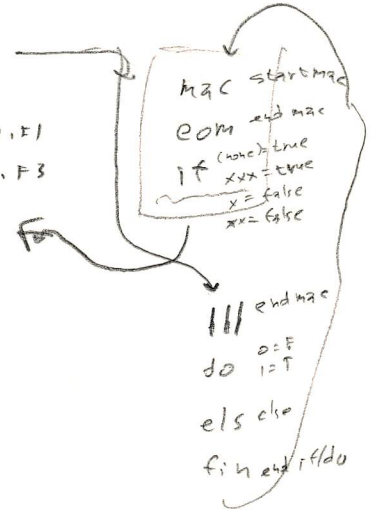
tbl

tbl

tbl

addr: F0.F1

op: F2.F3



1010 1001 89
xor 0010 0000 89
1000 1001

386

405

725

xxxxx xxx

PC

80BB
x-test=B3
x-test=A3

test-x=B3

test+x=A3

32770 x=179

32776+x=163

REP
ZCH
fcl
vto

hcv
vca
tck
x1

hex

hex

hex

hex

hex

hex

hex

hex

MERLIN

		+		-	
st2	phx	mir		set	
tsb	phy	smp		rtw	
	pla	rmb		bk	bnc b2 bs
trb	plr	bps		rs	bc bn2
		bpr	0	nul	bp bh2
		bra	..	br	bm bnm

65 61 EB

$$\models \varphi \quad \phi \phi$$

8 3 E 0

1000	001	100 0000
------	-----	----------

10 of 10 0

119

8 3 € 1

1000	001	11000001
------	-----	----------

10 of 10

0110111
0100000
1001000
~~0110100~~
1100000

00

A
R0101100
0101211 2

Chh

$$\text{db\%} = 4843$$

(b6/2 - b7C)

$$\begin{array}{r} 0 \quad C \quad C \quad 6 \\ \hline 0000 \quad 1100 \quad 1100 \quad 0110 \\ \hline 01 \quad 13 \quad 03 \end{array}$$

E F 7 5
110111011001

$$\begin{array}{r} 2 \quad 0 \quad D \quad 2 \\ \hline 010000011010010 \\ 04 \quad 03 \quad 09 \\ \hline \end{array}$$

E	F	7	4

3 3 2 6
0011 0011 0010 0110
06 0C 13

8
9
10
11

φ.c c6 EF 75 20 02 EF 74 33 26 EF 68 48 AC

F 468

BLOCKMAP

MERLIN

MERLIN.BIN

L65C42
PAGE
AB DE DF

M65C42

M65C42E

MB	AC	E5	E6	BB	E5	E6
CA	AE	E7	E8	BD	E7	E8
CB	AF	E9	EA	BE	E9	EA
CC	BO	EB	EC	BF	EB	EC
CD	BI	ED	EE	CO	ED	EE
CE	B2	EF	FO	C1	EF	FO
CF	B3	F1	F2	C2	F1	F2
DD	B4	F3	F4	C3	F3	F4
DI	B5	F5	F6	C4	F5	F6
	B6	F7	F8	C5	F7	F8
	B7	F9	FA			
	B8	FB	FC			
	B9	FD	FE			
	BA	FF				

DFB
04 06 02
00100 00110 00010
2 1 8 4,5

00E8 F3E8:
A8 MERLIN.BIN : . . . 1B . . . 1B . . . 9B . . . 5B
B4 M65C42 : E8 00 F0 5C 2C 6A F0 5C F7 BC F1 83 83 46 F1 83 41 70 EF DC 21 84 EE 9C
0108 F4E8:
D0,00E8

FIDA:
STA 5083F,Y

01 13 03
0000 11001 00011

F468:
14,7,67: 0C C6 EF 75

F 0 1 B
1111 0000 0001 1011 0010
1111 0000 0101 0110 0010
F 0 5 C

0 C C 6 E F 7 5
0000 1100 1100 0110 1110 1111 0111 0101
F A S C N ^ J
01 13 03 0E 1E 1D
75C

MF
341
1 35
20 40 EF 76
21 04 EE 75
24 C0 F0 E6
64 E8 EE C2

MERLIN

MERLIN
 load at \$DFFF
 start at \$DFFF
 length \$2879

ADDRESS			now	BM
424	MERLIN	\$220	(0220) 03C7	
10361	MERLIN.BIN	\$DFF5	(DFF5) F87D	
294	L65C02	DED0	(DED0) DFF5	
6672	M65C02	E5F0	(E5F0) FFFF	
4948	M65C02E	E520	(E520) F873	

merlin A\$0220 L\$01A8 E\$03C7
 merlin.bin A\$D005 L\$2874 E\$F878

merlin

200:8D <return>

D9:

76:

33:

E8:

PUT

SAV

MAC

ROM → RAM D2

14.8. F0. BC FI 83 83

B C

lda \$FBB3

eor \$06

for H011e?

00000110

00000110

00000000

bne

make sure has Monitor ROM? check chels 10 byte

sta \$06

lda \$F8

sta \$07

\$06: \$06 FF

copy F879 - FFFF ROM to BSR

F 7 B C F I 8 3 8 3 4 6 F I 8 3

11110111011000111000100000110000011000011000001100000110000011

1E 1E 1E 0F 03 00

10 10 10 1E 06 01 12 06 11

15 15 19 1K 0C 03

17 17 13 18 13 07

0.F 0E 07 11 10 0E

1

std
stp

exp → i

MD or MV
macros

MDB

315

317

1d

JMP D5C11

DC06

org

dtb

hex

asc

put

sav

ds

227

exp - iPhone line
in assembly

NON EMB:

\$DBE3

DB22

DBE4

DBEB

DBF8

block

image address

95	D000	D100
97	D200	D300
98	D400	D500
99	D600	D700
9A	D800	D900
9B	DA00	DB00
9C	DC00	DD00
9D	DE00	DF00
9E	E000	E100
9F	E200	E300
A0	E400	E500
A1	E600	E700
A2	E800	E900
A3	EA00	EB00
A4	EC00	ED00
A5	EE00	EF00
A6	F000	F100
A7	F200	F300
A8	F400	F500
A9	F600	F700
AA	F800	-

14.8.E7: E8

*F8: 70 → 8F

14.7.78: 6C EF 4E 00 E7 38 F1 FD

E 7 3 8 F 1 F D

11100111001100011110001111101

14.7: F1

F47D

14.8.EB: 2C 6A

→ 00

A0 F4

A9 F3

error message table

data table

\$F3E8
\$F5CA

136

F36E

F46P

E807: A2 04

E8 00 F0

\$F3E8 - \$F467
\$F468 - \$F4E7
\$F4E8 - \$F567
\$F568 - \$F5CB

107
\$80
\$64
(100)

00A1.0120:

ldz #FEB
ldy #F3
jst \$E807
bcs
jmp \$F15B

F3E8: E8 00 F0 1B 2C 6A F0 1B F7 BC F1 83
F468: 0C C6 EF 75 20 B2 EF 74
F4E8: 12 C0 0A 94 C0 0B 75 58

F3E8: 1110 0001 1100 0000 1101 0001 1010 0101 1000 1101 1010 1110 0000 0001 1011 11

10 03 18 01 16 08 03 0A 1E 00 0D
] C X A F K C J ^ @ L

03 0C 16 06 15 1C 00 1B
C L V F U \ @ [

0010 1100 0110 1010 1111 0000 0001 1011
0010 0000 1101 0010
1100 0000 0000 1011

EQV 05 11 15 0F 00 06
DCI 04 03 04
XEE 18 00 05

00F

MERLIN

commands

}	equale)))	end of macro definition
equ	equale	do	if then
mm	expand macro	else	else
pmc	expand macro	fin	end if
hex	insert hex	mac	start macro definition
dfb	insert byte	edm	end of macro definition
da	insert word (16/4)	ic	ic
dwb	insert word (4/16)		
ds	insert bytes	rtn	ld
lst	listing (on/off)	pk	st
act	error asterisks	rs	ldd
org	set object origin	bul	std
obj	change object location	br	pop
set		bnc	stp
slp	insert blank lines	bc	add
pag	force page break	bp	sub
pan	name for keep press	bm	pop
exp		bz	cpr
put	insert text file source code	bhz	int
lv		bmz	der
chk	insert checksum byte	bzm	
var		bs	
sav	save object code		
kbd	get value from keyboard		
end	end asm		
dsk	save following object to disk		
lup			
mm			
err	create error		
usr			
dum	get origin for dummy object code		
dcm			
asc	insert string ("/")		
dci	insert string with byte's MSB inverted ("/")		
fls	insert flashing string		
inv	insert inverse string		
rev	insert string backwards ("/")		

MAPLIN

OPERATORS

for one byte:

\$FF hex

27 decimal

"A" MSB on ASCII (41 - 5F)

'A' MSB on ASCII (41 - 5F)

%01010101 binary

for one word:

\$FF, \$0F

27, 28

"AB"

'AB'

%0101010101010000

* equivalent to current object address

< lower 16 bits of address x

> higher 16 bits of address x

+ add

- subtract

* multiply

/ divide

MERLIN ED/ASM

Edit-line mode commands:

ctrl-B	beginning	(jump to beginning of line)
C	cancel	(cancel all editing done on the current line)
D	delete	following character
F	find	(jump to next character typed)
I	insert	(insert text before the cursor)
L	lower/upper	case toggle
N	end	(jump to end of line)
O	override	(insert reserved control characters)
P	set up	comment line
Q	quit	(enter line only up to cursor)
R	restore	(restore original line)
X	cancel	(as ctrl-C)
 (delete)	delete	previous character
<cr> (return)	enter	entire line (even past cursor)
<bs> (<-)	scan	backwards
<nak> (->)	scan	forwards

PUT "filename" ← equivalent to include another
MERLIN source file, the included

SAV "filename"

Can be used to save T.1 source in memory.

the above can be used to save the current line in memory, like
PRG 00000000

SOURCE/R

FORM 100-1 (REV. 1-1-60)
PAGE 1

PREP (MERLIN)

D

~~RE~~ - SOURCE/R

G

VID ϕ

~~USER~~

USER

~~USER~~

What follows is an extract from the SOURCE/R manual together with some additional commentary and description of specific features implemented here at SOURCE/R. The description of features not covered here can be found in the SOURCE/R manual. (Note: I have not fully explored all of the features reported here. There may be many features which I won't have commented upon.) Neophytes should first familiarize themselves with the first half (approximately) of the SOURCE/R manual, and then develop some familiarity with the first 10 sections of the SOURCE/R manual. (Note: this latter exists as SOURCE/R:1.0)

CONTENTS

~~9-10-60~~

- I. Expansion of the top level and related features.
- II. Input/Output
- III. The SOURCE/R Editor
- IV. The SOURCE/R Package (Continued)

~~7-10-60~~
~~7-10-60~~
~~7-10-60~~
~~7-10-60~~

MORLIN PRO

✓ ASM

FIX

LINK 1 3

✓ Findw 2 3

✓ Add

✓ Print 2

USER 2 3

✓ Editw 2 3

✓ MONitor

✓ Where 1

✓ Insert 1

TRUNC ON

✓ Delete 2

TRUNC OFF

✓ Replace 2

TEXT

✓ PR# 1

GETobj 2

✓ VIDEO 1

SWAP

✓ NEW

✓ - 1

TABS 2 3

☒ 1

✓ COPY 2 TO 1

✓ MOVE 2 TO 1

~~51 52 53 54 55~~

8B 8A 88 95

✓ LENGTH

✓ List 2

✓ / 2

✓ •

✓ PRinTer 1 3 4

VAL 3

✓ Changew 2 3 4

1072
1077
1732
1734
1736
38
60
61

UNPACKER PACKED CHARACTERS

3 6 8 1

0011011010000001

6 1A 0

1

2

3

4

5 3 2 5 1 4 4 1 5 2 3 5

01234567012345670123456701234567

0 1 2 3 4 5 6 7

11111000 11000000 11110000 10000011 11100000

00000111 00111110 00001111 01111100 00011111

00111001

5 bytes

8 packed chars

(addr)

A C E 3 2 5 3

Mem1: 85B: 00 F8 07 07 6F

1010 1100 1100 1100 0101 0111

Mem2: 86B:

1 5 13 11 12 A

4 S Q R J

B 6 7 5 E 4

5 F 3 B 2 7 0
0101 1110 0011 1011 1000 1001 1

0 B 1 8

~~Handwritten scribbles and notes~~

3 A 7 4
0011 1010 0110 0110
0 7 0 9 1 B
C I C

C 6 B 8 9 6
1100 0110 1011 0110 1001 0110
1 A
1 8 2
X

A = 00011000 00100100
X = 0
Y = 1 B A 9 7 B 8 7 4 0
C = D

CHAR: 00000000 00000001

Char Char21
00111110 00000000

Y = 9 11000011

gra # 7.110 00000 Char data
CHARS: C3

00011010 0010010 01001100 110100 01111000 0
1 A 2 4 9 9 D1 F0

03 d8 12 99 13 14 DF 10 28 35
C H R I S T O P

~~Handwritten scribbles~~

00011010 0010010 01001100 110100 01111000 0

APPLEWORKS
SPREADSHEET

@

error

if

int

~~abs~~

abs

avg

sqrt

sum

lookup

count

choose

npv

~~max~~

min

max

max(exp)

APPLEWORKS BOOT 1

LIST

* I ~~II~~ 44

DRIVE OFF

~~BD~~ 88 Cφ

HOME

2φ 58 F-C

BOOT 1

DRIVE OFF
HOME

80-col.

PRINT MESS.

WAIT KEY

HOME

BOOT (no APPLE HC)

80-col.

20 Cφ CD

~~24~~ 24

PRINT MESS

A2 17
85 25

LDA #317
STA 325

A2 φφ

BD .. φ8

Fφ φ6

2φ ED F-D

~~85 88 88 88~~

E8

Dφ F5

LDX #φφ

LDA #88.., X

BEQ 800

JSR 3FDED
(COUNT)

INX

BNE

WAIT KEY

2C 1φ Cφ

2C φφ Cφ

1φ F-B

2C 1φ Cφ

RIT Fcφ1φ

BIT \$Cφφφ

BPL

BIT \$Cφ1φ

HOME

2φ 58 F-C

JSR 3FC5B

BOOT

4C φφ C6

JMP \$C66φ

MACRO WORKS

MACROS, AWP, CAM

~~of~~

<left>	beginning of line
<right>	end of line
<up>	— (used by <sa-(
<down>	next page (NP)
<rtu>	insert page (NP)
<tab>	right margin
A	add files
C	center
D	delete word
G	go to mark
H	home
*	
M	set mark
N	Christopher A. Mosher
Q	quit to next file
U	undelete
W	swap words
X	copy file (thru's name)
Y	delete line
Z	zap to end of file
(go to end, return

SL 75
6 4 1
4 4 4
2 14 2
214: FILE
B/M/24
name

NIBBLES AWAY AUTO-LOAD TILES DISK RAW FORMAT

D7 AA 97 FFFF AAAB ACAB TRFF DE AA EC B
9
F
D7 AA AD ... DE FF EB

DATAFORMAT

T 0-1E D5 AA 46 ... DE FF EB
DT AA AD DE AA 68
T 1F F5 F4 F3 AE EE AF BA BA EA
T 20.25 B7 AB AD EE AA EA EA BA EA
T 21.25 B4 AB AE FA BB FE BB FE BA

AFICR FOOT 2:

65555: 4C 1A 6D 4C 2C 6D

3880.3470
5280
3,200.1
120
(3228, 1604)

compliments of
Maine State Grange

2 "TRALER"

RAM TOGGLE 1

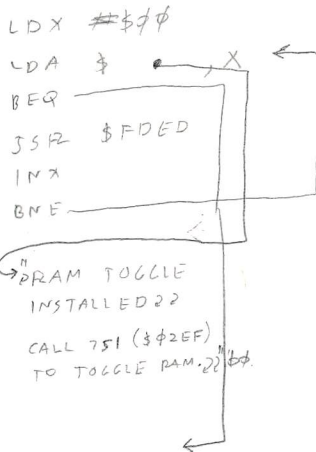
7FB3: A2 00
BD 00
F0 00
20 ED ED
E8
D0 F5

7FC0: =

00

7FF8: A9

8000:



8B1C
8B1B

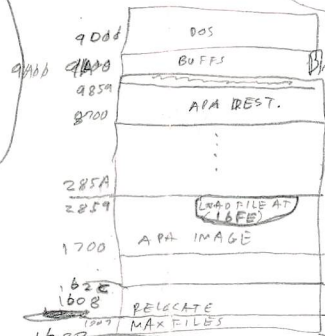
APA 3
(L\$115A)

79C2
7100

L\$121C

1700 - 8700

A\$1600, L\$125A



BAG OF TRICKS

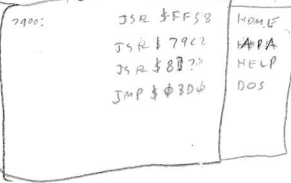
JMP

~~8700~~

300

300

1600: A9 01 LDA #01
80 57 AA STA \$AA57
20 51 A2 JSR \$A251



HELP: ~~8700~~

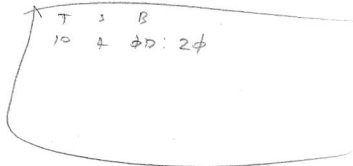
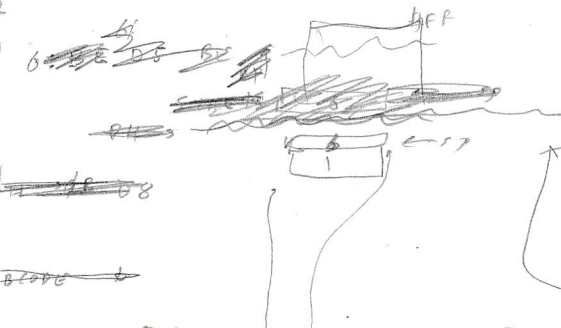
8B1C

002

RAM T-66LE 2
 ARA B: $\phi\phi$ 87 5A 11 1E ϕ E
 \rightarrow FE 86 5C 11 $\phi\phi$ $\phi\phi$

3E3: LDA # \$BE A = BE
 LDY # \$D5 Y = D5
 RTS Y = E6

6: E6 BE



COMMANDS

ADDRESSES

C	B353	
LOAD	B371	LOAD A
RUN	B446	RUN A
GOTO	B44C	GOTO A
SAVE	B48D	SAVE A
STORE	B511	STORE B
RECALL	B52B	LOAD B
DEF	B544	CREATE T
DN	B56C	CREATE T
READ	B582	EXEC T
END	B5A9	
DEL	B5AE	DELETE
LEN	B5CD	LEN A
D	B620	DRIVE
S	B62E	SLOT
NEW	B64F	NEW A
USR	B670	USR A

BACKUP:

AE

20 BG DE

0,0,1;AS → F

01001100
10011000

11010100

D 4

48:D4

BEEP: D2 C4 CF D3

2 → D, C, A, 9

0.7.87 L

JSR	B585	3
JMP	B64F	4

(PHANTASIE II DISK)

0.0, 4A: 6C → 0

"C" RUN SAVE RECALL ON END LEN "S" USR
 B320: 43 B6 AC AB B7 A8 A7 B8 BA 87 84 85 E3 44 53 BF D5
 LOAD GOTO STORE DEF READ DEL "D" NEW

B20T 1:

```
EXIT:    JMP (8FD)
```

B C 2 ϕ 1 ϕ 1 ϕ 0 FA ϕ 0 BC 16 \leftarrow 7 JAN 21
55/1472

TF2
ICE D
INFO

43 CAT

A7 real

SHAPES
+ 1470
CHARGE
ITEM

MN20 11E

28 1.6

MP 29

T^w 22

27

23

24

25

26

87

210

B303: Aφ

11P

1.0 - A : CATALOG

<u>P</u>	<u>B</u>	<u>S</u>
0		0
1	0	7
2	4	E
3		6
4		D
5	1	5
6	5	C
7		4
8		B
9	2	3
A	6	A
B		2
C		9
D	3	1
E	7	8
F		F

7wv 22
7
3
4
5
6
8
9
210

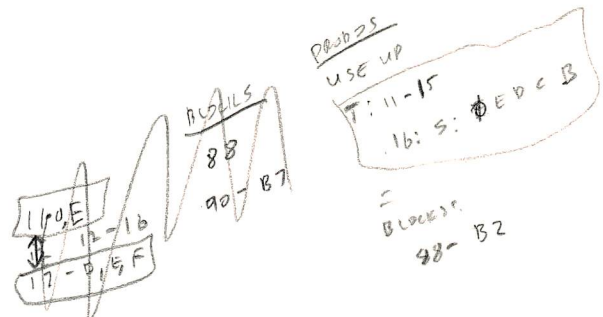
CC

DIVERSIDOS

DIV. VO. - SPRD

BF30: d's's's'φφφφ

3DE9: 000000dā i: 00000001
5DE9: 0's's's'0000 s: 00000010



L\$56φφ

1/0 MRS. LEW
7 WILLOWBROOK RD
WH PL. NY 10605

L0X # \$25 2014: A2 25
L0Y # φ Aφ φφ
B9 φφ 21
99 φφ 9B
C8
Dφ F7
E-E 7A 2φ
E-E 1D 2φ
CA
Dφ E-E
4C 84 9D

LDA \$2000, Y
STA \$9800, Y
BNE
INC L0A+2
INC 91A+2
DEX
BNE
JMP \$7089

F2.4F → F2.65 ,66 → ,74

DIV-DOS → PRO

AA 4F → AA 65 AA 6B → AA 74

AA 58: ~~3~~

AA 6C: ~~1~~

9DEA → 9E06 → 9E0D →
B1.0C: ~~66~~
B1.0F: ~~AD~~ ← NO

BREAK AT 955F

BOOT
↓
VER
↓
CAT

Q F Q Q ~~11~~
D 44
W 22 ~~66~~
A ~~66~~

A7D4 →

(B5.104)

A83C: 35R 955F

9D ~~3~~: D3 95

~~4~~: D3 9C

9C D3: ~~66~~

96E1: A6 9E A6 9B A6 9A

X-9A

A-~~4A~~

38 E7 ~~67~~

A6

~~D7.73: D6~~

A=1B

~~D7.48: F6~~

A=~~66~~

X=60

A=22

~~478=22~~

A83BL

A83B: PLA
STA 74, 70
PLA
STA 73, 6F
RTS

B9A4: 86

9 4C 85 B3

~~D7.27: D6~~

A=1B

AA5F=1B

~~D7.48: F6~~

A=~~66~~

AA62=~~66~~

F2.5F: ~~66~~

(→ 80)

adder

DIVERS/DOS → PRODS

add input to data block

i: 2 (as p. H: 1, 2, 3, 4, 5, 6, 7, 8, 9, A)

~~4 4 C 8 8 8 3~~

9DB6-9D77: FC AA FC AA
ERR BAS. COLD
65 D8 0B E0
BAS. WARM RELOC
3C D4 F2 D4
↓
9D56-9D62

BFFF
|
9B60
→
DD2
15FF
|
2100
45FF
|
2000

AAB6: 40 = BASIC: FP ROM

(FP RAM) 80
(INT) 00

BAB4:
9DED: 00 00
BF07: 00
JSR BA76
→ A851

AD 30 BF60

BA76:

BFDA: 00 00
LDA B3BA
→ 9DEF

C=1

EXTRA:

3BE9 → B7E9

43FE
|
2000

9DEF:

B14F: 20
B11D: 20
AFES: CB
AFES: CC
RTS

97
9E 9E98L

BFEC: RTS

HITS BREAK
AT 955F

SMP B385

(9D02, 9D03)

~~2.0.41: A9 34 00~~

46 38 LAX 39
A4 34 LAX 34

AAS1=80

~~00.105: 49 00 80 SE AA~~

~~B100: A4~~

~~B1.12: F6 00 00~~

9044
04

7B
7D-83
85
8E-94
AB-AD
9B 800

~~B1.42: 34~~

~~B1.41: A9~~

~~0.0.41: A9~~

~~34 D4~~

~~0.0.41: A9~~

~~B1.41: A9~~

~~B1.41: A9~~

BASIC - SYS

CLI: A677

IF DOS CMD THEN FLASH

JSR AA1B

EXEC

JSR AA4A (GET NON-SPACE CHAR, AND CAP)

~~A694: AD~~

A694: DOS SYNTAX ERROR (SEC RTS)

~~A697: DO DOS CMD~~

~~A697: SYNTAX~~

JSR AA1E

~~3E,105: D4 -> 4~~

3E,105: D4 CA 4C ->

8000: BA
8E FF6F
BD 0001
9D 0070
E8
D4 F6
44
TSX
STX \$0FFF
LDA \$4144,X
STA \$7444,X
INX
BRE
BRK

~~2~~ AE1E
9AD8
CCFS
FD78

PRODOS BITMAP

MEM RANGE → ADDR →

0xxx	1xxx	2xxx	3xxx	4xxx	5xxx	6xxx	7xxx	8xxx	9xxx	Axxx	Bxxx
BF	58 59	5A 5B	5C 5D	5E 5F	60 61	62 63	64 65	66 67	68 69	6A 6B	6C 6D 6E 6F

BITMAP

STD VALUE →

VALUE →

Y = 01000000

X = 80

A = 0

V = 0

A = 80

FF FF 01234567 89ABCDEF

GLOBAL PAGE

Pro DOS BOOT 1 Routine

0800: 01

0801: SEC

BCS 0807

JMP 0A132

0807: STX 043

; save slot in 043 slot ~~043~~ = dsss0000

060

where
d = drive of
sss = slot - 7

CMP 0403

PHP

TXA

AND 0370

LSR

LSR

LSR

LSR

ORA 05C0

STA 049

LDY 05FF

STY 048

; dsss0000
; 03330000

; 00000000

; 10000000 0C, 0C6

GET SLOT ADDR 0C5FF

; 08: FF 0C 0C6FF

0813: PLP

INY

LDA (048), Y

BNE 085B

BCS 0831

LDA 0308

STA 0800

INC 03D

LDA 049

PHA

LDA 055B

PHA

RTS

; Y = 0
~~0C6FF should be 0C6~~

; when 2 sectors read in; branch

READ 2 SECTORS

; 0000: 03

; 0C6

; 0C5C

; JMP 0C5C (EXTENT)

; (A = 0)

; 08: 0C 0C600

COPY SACRED ROM

TO END OF

BOOT ROUTINE

~~0C5C~~ 0C63-0C6A → 09F7-0A7E

0841: LDY 06

0843: LDY 0910, X

LDA 0924, X

STA 09F2, Y

LDA 0928, X

STA 097F, Y

DEX

BPL 0843

09A (0A) 09B (0A) 09C (0A) 09D (0A) 09E (0A) 09F (0A) 0A0 (0A) 0A1 (0A) 0A2 (0A) 0A3 (0A) 0A4 (0A) 0A5 (0A) 0A6 (0A) 0A7 (0A) 0A8 (0A) 0A9 (0A) 0AA (0A) 0AB (0A) 0AC (0A) 0AD (0A) 0AE (0A) 0AF (0A) 0B0 (0A) 0B1 (0A) 0B2 (0A) 0B3 (0A) 0B4 (0A) 0B5 (0A) 0B6 (0A) 0B7 (0A) 0B8 (0A) 0B9 (0A) 0BA (0A) 0BB (0A) 0BC (0A) 0BD (0A) 0BE (0A) 0BF (0A) 0C0 (0A) 0C1 (0A) 0C2 (0A) 0C3 (0A) 0C4 (0A) 0C5 (0A) 0C6 (0A) 0C7 (0A) 0C8 (0A) 0C9 (0A) 0CA (0A) 0CB (0A) 0CC (0A) 0CD (0A) 0CE (0A) 0CF (0A) 0D0 (0A) 0D1 (0A) 0D2 (0A) 0D3 (0A) 0D4 (0A) 0D5 (0A) 0D6 (0A) 0D7 (0A) 0D8 (0A) 0D9 (0A) 0DA (0A) 0DB (0A) 0DC (0A) 0DD (0A) 0DE (0A) 0DF (0A) 0E0 (0A) 0E1 (0A) 0E2 (0A) 0E3 (0A) 0E4 (0A) 0E5 (0A) 0E6 (0A) 0E7 (0A) 0E8 (0A) 0E9 (0A) 0EA (0A) 0EB (0A) 0EC (0A) 0ED (0A) 0EE (0A) 0EF (0A) 0F0 (0A) 0F1 (0A) 0F2 (0A) 0F3 (0A) 0F4 (0A) 0F5 (0A) 0F6 (0A) 0F7 (0A) 0F8 (0A) 0F9 (0A) 0FA (0A) 0FB (0A) 0FC (0A) 0FD (0A) 0FE (0A) 0FF (0A)

A68: AC
A39: B4
A37: 4B
A31: B6
A16: D1
A10: D7
0FA: F4

A7F: LDY 02B

CLC

RTS

JMP 097BC

MODIFY 15

PRODOS BOT 1 Routine

0855: A9 LDA #0

STA \$49

LDA #086

085B: LDY #0

CMP #FF

BCS \$087F

STA \$48

STY \$60

STY \$4A

STY \$4C

STY \$4E

STY \$47

INY

STY \$42

INY

STY \$46

LDA #3C

STA \$61

STA \$4B

0879: JSR \$0912

BCS \$08E6

INC \$61

INC \$61

INC \$46

INC \$46

CMP #36

BCC \$0879

088A: LDA \$C00

ORA \$C01

0894: BNE \$08FF

LDA #304

0898: CLC

ADC \$C23

TAY

BCC \$08AC

INC \$4B

LDA \$4B

LSR

BCS \$08AC

CMP #30A

BES \$08FF

LDY #304

08AE: STY \$4A

LDA \$0702

AND #30F

TAY

LDA (\$4A), Y

CMP \$0702, Y

BNE \$0896

08B8: DEY

BPL \$08B4

08BE: AND #30F

CMP #320

BNE \$08FF

LDY #310

LDA (\$4A), Y

CMP #3FF

BNE \$08FF

INY

LDA (\$4A), Y

STA \$46

INY

LDA (\$4A), Y

STA \$47

LDA #0

STA \$4A

LDY #31E

STY \$4B

STY \$61

INY

STY \$4D

08E3: JSR \$0912

BCS \$08FF

INC \$61

INC \$61

LDY \$4E

INC \$4E

LDA (\$4A), Y

STA \$46

LDA (\$4C), Y

STA \$47

ORA (\$4A), Y

BNE \$08E3

JMP \$2000

08FF: JMP \$093F

0702: 26 PRODOS

15 low ASCII chars

~~0702: LDA~~

0912: LDA \$64
 STA \$44
 LDA \$61
 STA \$45
 JMP (\$42)

091D: 02 1E 24 3F 45 47 76

0924: F4 07 D1 B6 4B B4 AC

092B: A6 2B 18 60 4C 8C 09 }
 LDX \$2B
 CLC
 RTS
 JMP 093C

0932: LDA #\$9F
 PHA
 LDA #\$FF
 PHA
 LDA #\$F1
 LDX #0
 JMP \$F479

093F: JSR \$FCS0 ; HOME

LDY #0

0944: LDA \$750,Y
 STA \$5AE,Y
 DEY
 BPL \$744

→ 094D: JMP \$74D ; hang

0950: message

096D: LDA \$53

096F: AND #03

ROL

ORA \$2B

TAX

LDA \$C080,X

LDA #02C

→ 097A: LDX #511

→ 097C: DEY

BNE \$77C

SBC #01

BNE \$77A

LDX \$2B

RTS

0986: LDA \$46
 AND #07
~~CMO~~ CMO #04
 AND #03
 PHP
 ASL
 PLP

ROL

STA \$3D

LDA \$47

LSR

LDA \$46

ROR

→ 099A: LSR

LSR

STA \$41

ASL

STA \$51

LDA \$45

STA \$27

LDX \$2B

LDA \$C080,X

JSR \$7BC

INC \$27

INC \$3D

INC \$3D

BCC \$7B8

JSR \$7BC

LDY \$C080,X

RTS

09BC: LDA \$40

ASL

STA \$53

LDA #0

STA \$54

LDA \$53

STA \$50

SEC

SBC \$51

BEQ \$7E2

BCC \$7D4

INC \$53

BCC \$7D6

DEC \$53

SEC

JSR \$76D

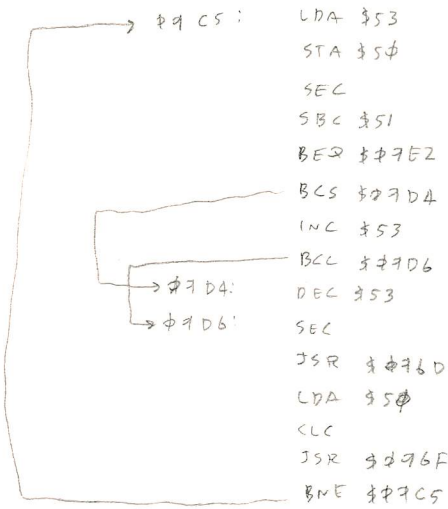
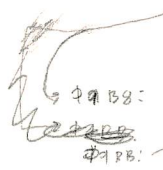
LDA \$50

CLC

JSR \$76F

BNE \$7C5

Print "unable to load..."
message



```

$9E2:  LDY # $7F
      STY $52
      PHP
      PLP
      SEC
      DEC $52
      BEQ $07BB      (Rts)
      CLC
      PHP
      DEY
      BEQ $07E7

$07F2:  LDA $C085,X
      BPL $07F2
  
```

\$07F7: 07 07 07 07 07 07 07 07 07 07

APA

T S B
16 C 4 = 57800

D ~~15 15~~
~~67 96~~
67 96

F# 7F 2# 5D FD E8 D# FS (TEXT) # # #

9
986

KEYS ↓

9253

9850

T S B
15 C 19: 53 92

878E

KEYS /
FROM
END
ONE
80

1300 T1

ppos

pp. 003

~~Disks~~
Patches

(40 or 80 cols.)

TO MAKE PRE DOS PRINT NOTHING:

~~TOP SECRET (AFFET THE SCIENCE~~

$R\phi_5: EA \rightarrow EA \rightarrow EA$

2000

7th S.F. ~~44: F8~~, 44B: F8, 44B: F8

put 3F8 in bytes: 44, 48, 4B, 51, 54

(T₀₁ s₀₃ B₀₄ - F₀₁ And: F₀₁, A₀₁)

$\pi \phi_1$ SdA B $\phi \phi - 27$ Bicom L

TO MAKE ONE EXECUTIVE IMPERATIVELY.

T#1 SPD B66: 20 20 20 20 20 20 20 20 20 20

154 544 B 74: 65 73 21 54 44

BASIC SYSTEM Patches (1.1)

$$4/17$$

TO MAKE PRINTED ~~MEASURES~~ MEASURES LOWER CASE

T 77 54c
 BET: 49 97 71 72 64

$$1\phi 5 \quad 3\phi A \quad B < 7: 2\phi \quad E\phi \quad B\in$$

LABS LOCKED FILE CLARE

FFS 344 B68: 1

Example: $A^T = A$

TO CLEAR SCREEN AND SET 80/40 COL FORMAT

AT START

Tp4 s45 B7d: dd 23

744 54F Bbb: 24 58 FC AD 64 49 84

φA 2φ C1 CD 6φ

72 CHANGE STARTUP TO BASIC.M17

T 4. 5 5 B 6. 6 6 B A S I C. I M I T (LOW AS 11)

144 345 1504-2000 23 EA EA EA EA EA EA
 144 345 1504-2000 23 EA EA EA EA EA EA

(1947 SC 200)

2F FB A 98 BF 29 b2 b3 b4
 2F FE 58 FC 2E 62 cP A9 72 E9

phi 4c phi c3

23 FEB

Handwritten signature: *Handwritten signature*

~~32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100~~

A9-27

TO CHANGE BASIC MESSAGES WITH NO STARTING FILE

7, 116: 4c

LOA #56C
STA 511
LOA #56A

226c → $\phi 8 \phi \phi$

$$110 \rightarrow 880$$

Accepted for publication, 1981

7, CA: 4 (ms)

~~D7 : Year 2002
ZC ZC BC 65 E6 21 74 44 44 44 44~~

make QNT rather than ~~the~~ - X.SYSTEM

9, 6C: 2p 5p BF 65 66 68 64 4p 4p 4p 4p 4p 4p 4p

OK
7,110:  " 21 " "

f_{FD} (CS FD 21 06 4E AD 81 ϕ 2 29 ϕ F)

TO MAKE QUIT IF CAN'T FIND
X.SYSTEM FILE:

9, 119: 20 ϕ 8f 65 ~~83~~ 0804
000000

or near

7.19:4C-E1 p8

9, 14E:

[illegible]

Top 544 BAI: 44 BD 67 22 F4 66 24 ED, FD E8 D4 F5 EA... EA

144541 B62: "BASIC Interpreter system, version 1.1. - HILMAN, CILLI

TO CLARIFY YOUR EVENT MESSAGE

Y64 501 B3F: "M... .."

10 MAKE CARGO FILES Lower case

745 s45 B D6: A4

CHANGE PROXYING:

7d	5dF	W777	Bc1-ED
----	-----	------	--------

74 34F ~~WATTS~~ BC1-ED

PRODS BOOT 2

031:85

~~PRODS BOOT 2~~

PRODS

85DL

084:71

084:1

43: 64 (50, DRIVE)

SEE IF FIRST SECTOR NOT READ BY 3C64 WAS 343 AND PHP.

48: FF C6

$\begin{cases} C=0 \\ Z=0 \\ N=1 \end{cases}$

081B: 7 PLP

LDA 3C64E (44)

LOAD IN 3 SECTORS THEN

FF
F9
6

0831: MOVE SAVED FIRMWARE (3C663-3C6EA)

TO 349F7-34A7E

135

0841:

841:

$X = (924)$
 $A = 92A$

	0	1	2	3	4	5	6
41D:	08	1E	24	3F	45	47	76
424:	F4	D7	D1	B6	4B	B4	AC
428:	A6	2B	18	64	4C	BC	69

(41D, 424, 428)

(42B:

42F: LDX 32B
RTS
CMP 349BC

CLC
LDA 34444
RSL 34444
ROL 34444
CMP 34444

A
x1000000
b0000000
c0000000

400
x1000000
b0000000
c0000000

49: 49

A=86 Y=4

48: 86 60: 4

41: 4

40: 4

4E: 4

47: 4

42: 1

46: 1

Y=1

Y=2

61: 4C

(64: 83 3C)

3D: 04

27: (45)

31: 0

00000000

0

n

4FA: F4

A7E: *

A15: D7

A16: D1

A31: B6

A37: 4B

A39: B4

A68: AC

T S B

42: EE

42: EE

1110 11100
0 C

1010 00000
4 1